

24. (New Claim) An optical device of Claim 21, wherein the first and second pretilt angles are non-zero.

25. (New Claim) An optical device including a ferroelectric liquid crystal material, said optical device comprising:

a first and a second substrate;

a first alignment treatment applied to a surface of the first substrate, said first alignment treatment being intended to induce an orientation of at least a portion of said ferroelectric liquid crystal material along a first alignment direction and with a first pretilt angle α_1 with respect to a plane parallel to said first substrate;

a second alignment treatment applied to a surface of the second substrate, said second alignment treatment being intended to induce an orientation of at least another portion of said ferroelectric liquid crystal material along a second alignment direction and with a second pretilt angle α_2 with respect to a plane parallel to said second substrate; and

wherein the first substrate is located with respect to the second substrate in such a way that the surfaces of the first and second substrates onto which the first and second alignment treatments were applied, respectively, are spaced apart, generally parallel and facing each other and a projection of the first alignment direction onto the treated surface of the first substrate makes a non-zero angle Ω with respect to a projection of the second alignment direction onto the treated surface of the first substrate such that, said ferroelectric liquid crystal material being injected between the first and second substrates, the optical device is free of chevron structures without a need to otherwise apply an additional treatment to the optical device; and

wherein the ferroelectric liquid crystal material in the optical device is surface stabilized.

B1
conced

26. (New claim) An optical device including a ferroelectric liquid crystal material, said optical device comprising:

a first and a second substrate;

a first alignment treatment applied to a surface of the first substrate, said first alignment treatment being intended to induce an orientation of at least a portion of said ferroelectric liquid crystal material along a first alignment direction and with a first pretilt angle α_1 with respect to a plane parallel to said first substrate;

a second alignment treatment applied to a surface of the second substrate, said second alignment treatment being intended to induce an orientation of at least another portion of said ferroelectric liquid crystal material along a second alignment direction and with a second pretilt angle α_2 with respect to a plane parallel to said second substrate; and

wherein the first substrate is located with respect to the second substrate in such a way that the surfaces of the first and second substrates onto which the first and second alignment treatments were applied, respectively, are spaced apart, generally parallel and facing each other and a projection of the first alignment direction onto the treated surface of the first substrate makes a non-zero angle Ω with respect to a projection of the second alignment direction onto the treated surface of the first substrate such that, said ferroelectric liquid crystal material being injected between the first and second substrates, the optical device is free of chevron structures without a need to otherwise apply an additional treatment to the optical device; and

wherein the first and second substrates are spaced apart by a distance sufficiently small to suppress formation of helixes typically formed in bulk of the ferroelectric liquid crystal material.